

lacks the innermost black costal spot but a "smeared" outermost spot is present. A dark postdiscal band extends across the wing and a partial second band extends from the inner margin to  $CU_1$ .

The specimens figured are in the collection of the author.

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### Ommochromes in Libytheidae

Ommochromes are a group of pigments that occur as granules in insect eyes and in various other organs and tissues (Robinson, 1971, *Lepidoptera Genetics*, Pergamon Press, Oxford). The red meconium of teneral adults, which contains ommochromes, is widespread in Pierinae and Nymphalinae and is also known to occur in a few Coliadinae, *Charaxes*, and certain Parnassiinae (Shapiro, 1982, *J. Res. Lepid.* 20: 97–102). Some Pierinae have red eggs which may be a manifestation of ommochromes (Shapiro, op. cit.); ommochromes can also be brown in color (Robinson, op. cit.). Since pterins and ommochromes are often associated in insect eyes (including Lepidoptera) and tend to be affected by the same mutation, it is thought that certain pterins are involved in the enzymatic processes that form ommochromes (Robinson, op. cit.; Gilmour, 1961, *The Biochemistry of Insects*, Academic Press, New York & London). It was recently discovered that some Libytheidae contain pterin pigments in their wings (Shields, 1987, *J. Chem. Ecol.*, in press).

The meconium of two freshly emerged *Libytheana bachmanii bachmanii* Kirtland from College Station, Texas, was light reddish orange to moderate orange with brown speckles, i.e. rust tan or testaceous in color (T. Friedlander, in litt.). When this species is ready to pupate, it spins a button of red silk on the underside of a leaf (Edwards, 1881, *Canad. Ent.* 13: 226–229). When first laid, the egg of *Libythea laius* Trimen is whitish but in two days turns to a pale, dull salmon tint; similarly, *Libythea celtis celtis* Fuessly eggs turn brownish-pink (Shields, 1985, *Tokurana* 9: 1–58). These data suggest the Libytheidae may also contain ommochromes.

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